

Appl. No. 10/671,542  
Amendment dated: May 8, 2006  
Reply to OA of: February 7, 2006

### **REMARKS**

Applicants have amended the specification and claims to more particularly define the invention taking into consideration the outstanding Official Action.

More preferably as one word has been rewritten as two words as suggested by the Examiner. This amendment to the specification obviates the objection to the specification. Accordingly, it is most respectfully requested that the objection to the disclosure be withdrawn.

Claim 7 has been made dependent on claim 6 to further define the invention. Applicants most respectfully submit that all of the claims now present in the application are in full compliance with 35 USC 112 and are clearly patentable over the references of the record.

Applicants wish to direct the Examiner's attention to the basic requirements of a prima facie case of obviousness as set forth in the MPEP § 2143. This section states that to establish a prima facie case of obviousness, three basic criteria first must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Section 2143.03 states that all claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

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Applicants also most respectfully direct the Examiner's attention to MPEP § 2144.08 (page 2100-114) wherein it is stated that Office personnel should consider all rebuttal argument and evidence presented by applicant and the citation of In re Soni for error in not considering evidence presented in the specification.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fialkoff in view of applicants submitted prior art (hereinafter APA). In the Official Action, it is appreciated that Fialkoff fails to disclose the act of arc spraying to thicken the electrocasted layer. It is further urged that APA teaches the use of arc spraying to add a thickness to the electrocasted layer with reference to page 1, lines 17-19 in the present application. It is further urged that the purpose of arc spraying is to quickly thicken the shell. Therefore, it is concluded that it would be obvious to one of ordinary skill in the art at the time the invention was made to arc spray over an electrocasted layer in order to quickly thicken the shell. This rejection has been carefully considered but it is most respectfully traversed.

Applicants most respectfully submit that i) Fialkoff does not disclose the step b), "providing the metal shell with one or more columnar bodies adhered thereto", instead pins 11, 12, 11' and 12' in Figs. 1-4 and 6-10 adhere to the base 13 and 13'; ii) Fialkoff deposits a refractory layer 14 on the base 13 or a fusible parting layer 30 on the base 13', which is conductively coated before electrodeposition of a metal layer, i.e., Fialkoff does not disclose the step c), "thickening the metal shell by electrocasting so as to embed the base of each of the columnar bodies in the thickened metal shell"; and iii) Fialkoff does not embed the base of the columnar bodies in the thickened metal, instead the metal layer 16 nonadherently surrounds the pins 11, 12; and the pin 12' is not embedded in the layer 19'. As would be appreciated by one of ordinary skill in the art to which the invention pertains, there is a manifold space 26'.

The purpose of Fialkoff is different from the claim 1 method of the present invention, wherein the former is to form a structure with a manifold space inside the structure and the latter is to fasten a mold shell with a mold seat. With this difference, one of ordinarily skilled in the art have no motivation to modify the Fialkoff structure to

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make the claim 1 method of the present invention, unless there is an additional evidence to support this motivation. In re Fritch, 23 USPQ 1780, 1784(Fed Cir. 1992) ("It is impermissible to engage in hindsight reconstruction of the claimed invention, using the applicant's structure as a template and selecting elements from references to fill the gaps.). Moreover, the Examiner's attention is most respectfully direct to the last paragraph on page 6 of Applicants' specification for the advantages of the present invention. Accordingly, it is most respectfully requested that this rejection be withdrawn.

The rejection of claims 2-8 under 35 U.S.C. 103 as being unpatentable over Fialkoff in view of the APA and further in view of Marmo et al. has been carefully considered but is most respectfully traversed.

It is noted in the Official Action that with reference to claims 2-5, although Fialkoff discloses the combining of a mold seat and a mold shell while using hollow tubular objects, Fialkoff along with APA failed to disclose the inserted tubular objects being threaded. Marmo et al. is relied upon for the teaching of threading the electroplated tubular columnar recesses with specific reference to Figures 3 and 5.

It is further urged that the purpose of threading the columnar recess facilitates the attachment of the mold shell to a mold seat by the use of a bolt 22. Specific reference is made to Figure 7 and the conclusion is reached that the multiple bolts are to enhance the connection strength between the shell and the seat. This aspect of the rejection is specifically traversed.

Applicants most respectfully submit that the rejections of claims 2-8 under for obviousness are also wrong, because Fialkoff does not suggest that the metal shell and the mold seat is joined by aligning one or more through holes of the mold seat with the columnar bodies as required in step f) in the claim 1 method of the present invention, and by threaded holes and bolt or threaded rod and nut as required in claims 2-8. On the contrary, the hole 25' in Fig. 10 of Fialkoff is an inlet and the pin 12' in Fig. 10 has bore of capillary size. They are not necessarily aligned and they have to be hollow to form an inlet and manifold. Fialkoff teaches away from the subject invention by using

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the holes 25' as an inlet and the pin 12' to form the manifold. Accordingly, it is most respectfully requested that this aspect of the rejection be withdrawn.

With respect to claim 6 to 8, it is urged that it would be obvious to one of ordinary skill in the art to use threaded columnar bodies in order to facilitate an easier attachment to the mold seat. This aspect of the rejection has been carefully considered but is respectfully traversed for the reasons set forth above as it does not overcome the deficiencies in the primary references.

Finally, the rejection of claim 9 under 35 U.S.C. 103(a) as being unpatentable over Fialkoff in view of APA and further in view of Rickerby has been carefully considered but is most respectfully traversed for the above reasons.

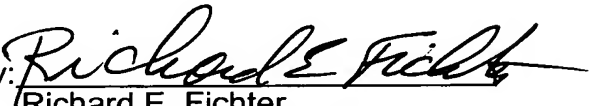
In the Official Action, it is urged that Rickerby teaches applying a bond coating containing aluminum to help facilitate the connection between two other metal coatings with specific reference to column 1, lines 37-39, column 2, lines 23-25 and column 5, lines 54-57. This aspect of the rejection is specifically traversed as the necessary motivation to make the combination is not found in the combination of the references absent applicants' teaching. The rejection is based upon hindsight and therefore is most respectfully requested that this rejection be withdrawn.

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In view of the above comments, amendments to the specification and claims, favorable reconsideration and allowance of all of the claims now present in the application are most respectfully requested.

Respectfully submitted,

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